

This report contains important information about our drinking water. If you do not understand it, please have someone explain it for you.


Este informe contiene información muy importante sobre su agua beber. Tradúzcalo ó hable con alguien que lo entienda bien.

Este reporte contem informacões importantes sobre a sua água de beber. Traduza-o ou fale com alguém que o compreenda.

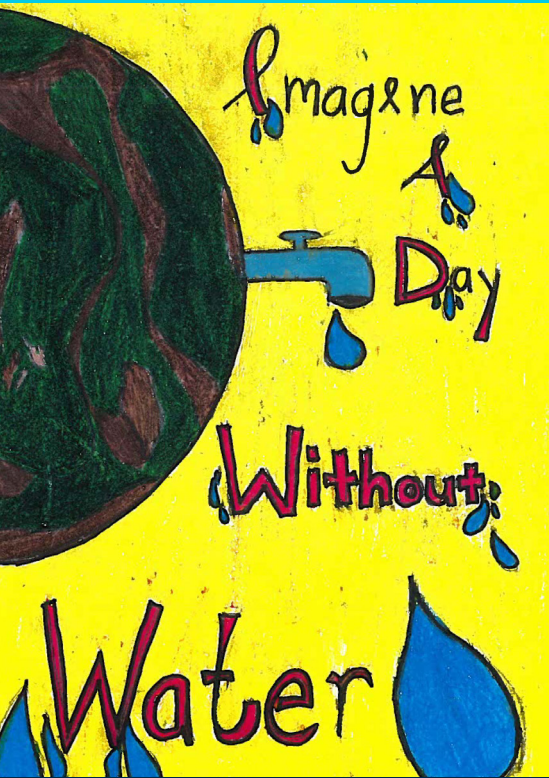


Dear Customer,

Water is critical to our survival on earth and the City of Newark is committed to protecting our valuable water resources and preserving the public's health. That is why I am pleased to share our 2016 Water Quality Report with you. This year's report reflects the quality of our drinking water and details the dedication of the City of Newark's Department of Water and Sewer Utilities staff that is working 24/7 to serve you, our community. Safe, quality drinking water is our priority and the test results presented in this report demonstrate that your drinking water *meets* the water quality standards established by the U.S. Environmental Protection Agency (EPA). We are committed to safeguarding your well-being and providing the best water at the lowest possible price for generations to come. If you have any questions, concerns or suggestions, please do not hesitate to contact us.

Sincerely yours,

Ras J. Baraka, Mayor

We gave our website a makeover. Check us out! waterandsewer.newarknj.gov



CITY OF **NEWARK**
Mayor Ras J. Baraka

Department of Water and Sewer Utilities
Newark City Hall, Room B-31F
920 Broad Street, Newark, NJ 07102

Water Quality Matters

2016 Annual Water Quality Report

Pequannock and Wanaque Water Systems

Connecting With Our Students

Recognizing that an investment in our drinking water and wastewater systems is essential to securing a bright and prosperous future for generations to come, we invited Newark Public School students grades 5 through 8 to participate in an art contest to "Imagine a Day Without Water."

As a part of the contest, we visited 20 classrooms and received a total of 469 contest submissions from students. Emily Matos, 8th Grade of Hawkins Street School is the winner and her poster is included in this year's consumer confidence report, as seen to the left. All finalists' posters are on display at City Hall in room 117.



A City We Can All Believe In

2016 Annual Water Quality Report *Pequannock and Wanaque Water Systems*



Newark is committed to providing a reliable supply of safe, quality drinking water to more than 500,000 people in 10 communities. We also pledge to meet and exceed safe drinking water quality standards as members of the Partnership for Safe Water Program. The Partnership is a voluntary cooperative effort between the EPA, drinking water professional organizations, and more than 200 drinking water utilities across the country. All water utilities that join the Partnership agree to adopt stringent performance standards to protect the water supply against microbiological contamination.

Each year we provide this report on the quality of the water delivered by the City of Newark. This report meets the Federal Safe Drinking Water Act (SDWA) requirement for "Consumer Confidence Reports" and contains information on the source of our water, its constituents, and the health risks associated with any contaminants.

For more information or to ask questions about Newark's water call us at 973-256-4965.

Newark's Water Source

The sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

To ensure that tap water is safe to drink, the EPA prescribes regulations that limit the amount of certain substances in water provided by public water systems. The Safe Drinking Water Act regulations allow monitoring waivers to reduce or eliminate the monitoring requirements for Asbestos, Volatile Organic Chemicals and synthetic organic chemicals.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons

such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers.

EPA and Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the EPA Safe Drinking Water Hotline: 1-800-426-4791.

Testing Newark's Water

The City of Newark has a water treatment plant where it treats and filters our water to ensure its safety and potability. Newark routinely monitors and tests the water at rivers, lakes and streams that supply its reservoirs. Newark continually monitors the quality of water throughout the distribution system, which finds its way to you, the consumer.

The table in this report lists all the drinking water analytes detected during calendar year 2016 and includes the name of the substance, the highest level allowed by regulation, the ideal goals for public health, the amount detected, the usual sources of such contamination, and a key of units of measurement. The presence of these analytes in the water does not necessarily indicate that the water poses a health risk.

Sampling for Lead

In 2016, we collected 74 samples from water mains serving fire hydrants outside of schools and no lead was detected. We collected 17 first draw samples in responses to customer requests and 2 samples showed results above the lead action level of 15 ppb. An additional 19 flush samples were collected from various locations, including pre-schools, county facilities, and homes, and no lead was detected.

Substances That Could Be in Water

Drinking water may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk.

Substances that may be present in source water include: Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife; Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming; Pesticides and Herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses; Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and may also come from gas stations, urban stormwater runoff, and septic systems; Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

Special Considerations

Nitrate levels above 10 ppm in drinking water is a health risk for infants less than six months old and can cause blue baby syndrome. Levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider.

Infants/young children are more vulnerable to lead in drinking water. Lead levels in your home may be higher because of the materials used in your home plumbing. If concerned, you may wish to flush your tap for 30 seconds to 2 minutes before using.

We test for arsenic to ensure that tap water is safe to drink; EPA prescribes limits on the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water.

Turbidity is a measure of cloudiness of the water. We monitor it because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

CITY OF **NEWARK**
Mayor Ras J. Baraka

Ras J. Baraka, Mayor
Jack Kelly, Business Administrator
Andrea Hall Adebawale, Director
Dept. of Water and Sewer Utilities
Mildred C. Crump
Council President, Council Member-At-Large

Augusto Amador
Vice President
Council Member, East Ward
Carlos M. Gonzalez
Council Member-At-Large
John Sharpe James
Council Member, South Ward
Gayle Chaneyfield Jenkins
Council Member, Central Ward

Joseph A. McCallum, Jr.
Council Member, West Ward
Eddie Osborne
Council Member-At-Large
Luis A. Quintana
Council Member-At-Large
Anibal Ramos, Jr.
Council Member, North Ward

Every day we deliver high-quality drinking water from the Pequannock and Wanaque Water Systems to 500 thousand people in Newark and 10 other communities.



Jeffrey Baldwin "Let's talk water quality!" Senior Lab Technician

Newark Water and Sewer ensures water quality every day. That's why we have chemists, lab technicians, and samplers to perform duties to check and maintain the water quality as mandated by the United States EPA and the New Jersey Department of Environmental Protection (NJ DEP). One of the people performing these duties is Jeffrey Baldwin, our Senior Lab Technician.

Along with other water quality experts, Jeffrey works hard to maintain the quality of Newark's drinking water. Jeffrey collects samples from various sample sites and performs analysis to ensure the health of our customers.



Testing and Treatment



Newark takes multiple steps in our testing and treatment processes to make sure the water we deliver to your home is safe to drink and meets contaminant level standard.

Your water goes through a thorough treatment process which includes removing small debris, filtering, and disinfecting. In addition, Newark regularly collects and tests approximately 300 water samples a day to ensure that the water our customers receive meets and exceeds federal and state drinking water quality standards.

Our commitment to providing you, our customers, with quality drinking water is proven through the comprehensive testing and treatment processes we employ.

Know Your Water

You may have noticed media attention to public water supply issues related to radiological substances, Mercury, Lead, Radon, Arsenic, and Cryptosporidium. Newark is well aware of these and other water qaality matters. We continue to perform extensive testing of all of our water supplies. We want to assure our customers that we are providing the high-quality water you expect and deserve.

Chlorine Treats Our Water

For almost 100 years, water suppliers in America and other countries have used chlorine to treat or disinfect drinking water. According to the EPA and other health agencies, chlorine is currently one of the most effective disinfectants used to kill harmful microorganisms. Disinfection of all public water supplies is required by federal and state laws and regulations, including the Safe Drinking Water Act and the Surface Water Treatment Rule.

Items of Special Interest to Newarkers

Lakes, rivers, and reservoirs may contain Cryptosporidium, which is a tiny microbe. It is found in human feces and many domestic and wild animals. We test for Cryptosporidium on a monthly basis in our Pequannock finished water surface water supplies. It has never been detected in a viable state in any of our treated water supplies nor has it been found in the Wanaque Supply.

Disinfectant Byproducts Total Trihalomethanes (TTHMS) and Haloacetic Acids (HAAS)

TTHMs and HAAs are organic compounds, which form when disinfectants (e.g. chlorine) react with natural organic matter in water (Leaves, brush, etc). TTHMs are a group of four chemical compounds: Chloroform, Bromodichloromethane, Dibromochloromethane and Bromoform. Haloacetic Acids are Monochloroacetic acid, Dichloroacetic acid, Trichloroacetic acid, Monochloro-Bromoacetic acid and Tribromoacetic acid. The Maximum Contaminant Level (MCL) for TTHMs is 80 parts per billion (ppb) and HAAs is 60 ppb for any sample and the four quarter average. In 2015, the TTHM results were higher than normal, in September 2015, one of the samples collected exceeded the MCL causing the four quarter average to exceed the MCL at 85 ppb. Since these MCL violations were Tier 2, Public Notices were sent out for the 1st and 2nd quarters 2016. People who drink water containing TTHMs and HAAs in excess of MCL over a long period of time may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer.

Chlorine Contact Time (CT)

Water supplied by the City of Newark meets the Chlorine Contact Time (CT) requirements for inactivation of Giardia. Water is chlorinated before and after treatment and further chlorinated at Montclair chlorination station before entering the water.

Water Quality Report

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The table to the right lists all the drinking water analytes detected during calendar year 2016. The presence of these analytes in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from January 1 through December 31, 2016. The state requires us to monitor the water for certain contaminants less than once annually because the concentrations of these contaminants are not expected to vary significantly from year to year.

2016 Annual Water Quality Report PWS ID #0714001

Inorganic Compounds	City of Newark	Min	Max	Federal/ State MCL	MCL Meets Standard ?	MCLG	Typical Source of Contaminant
Arsenic (ppb)	<0.5			10.0/ 5.0	Yes	—	Erosion of natural deposits; Runoff from orchards; Runoff from glassand electronicsprodcution wastes
Barium (ppm)	<0.008			2.0/2.0	Yes	2	Erosion of natural deposits
Mercury (ppm)	<0.0002			0.002/ 0.002	Yes	0.002	Erosion of natural deposits; discharge from refineries and factories
Nitrate (ppm asNitrogen)	<0.5			10.0/ 10.0	Yes	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Lead(ppm); conducted study 2015	0.01(90th percentile)			AL=0.0150	Yes	0	Corrosion of household plumbing; Erosion of natural deposits; Leaching from wood preservatives
Copper (ppm); conducted study 2015	0.07 (90th percentile)			AL=1.3	Yes	1.3	Corrosion of household plumbing; Erosion of natural deposits; Leaching from wood preservatives
Turbidity (NTU and Combined Filtered Water)	Annual	0.1	0.34	TT(<0.3NTU95% of the time ; upper range 1NTU)	Yes	N/A	Soil run-off
Microbiologicals	City of Newark			Federal/ State MCL	MCL Meets Standard?	MCLG	Typical Source of Contaminant
Total coliforms	1positive			Testing positive	Yes	0	Naturally present in the environment
Total # of coliform samplestaken for 2016: 2008	(out of 196 samples collected in August)			<5%per month			
Stage 2 Trihalomethanes (ppb)	Min	Max	LRAA	Haloacetic	Min	Max	LRAA
Site 1	44	54.5	49	Site 1	45.9	53.8	48
Site 2	45.3	66.9	55	Site 2	39.7	73.6	57
Site 3	37	59.6	49	Site 3	15.6	53	41
Site 4	35.6	65	49	Site 4	31.2	57	43
Site 5	4.4	54.6	37	Site 5	2.23	59.8	36
Site 6	51.4	69.7	59	Site 6	15.1	47.8	35
Site 7	46.8	74.7	59	Site 7	41.6	60.1	52
Site 8	46	67.8	55	Site 8	4.91	55	30
Site 9	46.2	64.4	53	Site 9	29.7	53.9	43
Site 10	41.7	53.5	48	Site 10	44.1	57.3	52
Site 11	31	56	47	Site 11	42.0	51	46
Site 12	38	52.1	45	Site 12	40	54.5	49
Regulated Disinfectants	City of Newark	MRDL	MRDLG	Secondary Compounds	City of Newark	Federal/ State Secondary Standards (Optimal Range)	
(Dist ribution System, Chlorine ppm)	0.587 annual average	4.0 asChlorine ppm	4 ppm	Alkalinity	24.8 ppm	NS	
Sourse (Raw) Water Pathogen Monitoring	Min	Max	Microbial Pathogensfound in all untreated	Aluminum	0.035 ppm	≤0.200	
Giardia Cyst			Surface water causes giardiasis.	Chloride	36.7 ppm	≤250	
Giardia, Cyst/ L	0	0.28	Chlorination will inactivate Giardia.	Flouride	0.073 ppm	≤2.0	
Secondary Compounds	City of Newark	Federal/ State		Color	2 CU	≤10	
Sodium	20.4 ppm	≤50		Hardness	51.7 ppm	50-250	
Sulfate	10.6 ppm	≤250		Iron	0.009 ppm	≤0.3	
Total Dissolved Solids	114 ppm	≤500		Manganese	0.011ppm	≤0.05	
Zinc	<0.2 ppm	≤5		pH	7.29 units	6.5-8.5	

Key Water Quality Terms

- **Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to MCLG's as feasible using the best available technology.
- **Maximum Contaminant Goal (MCG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
- **Maximum Residual Disinfectant Level (MRDL):** The highest level of disinfectant allowed in drinking water.

- There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
- **Maximum Residual Disinfectant Goal (MRDLG):** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.
 - **Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirement

- that a water system must follow.
- **Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.
 - **ppm (parts per million):** 1 drop in 10 gallons, 1 inch in 16 miles, or one penny in \$10,000.
 - **ppb (parts per billion):** 1 drop in 10,000 gallons, 1 inch in 16,000 miles, or one penny in \$10,000,000.
 - **picoCurie (pCi):** A unit used to describe the level of activity or decay of a radioactive element.

- **mfl:** Million fivers per liter.
- **mrem/year:** Millirems per year a measure of radiation absorbed by the body.
- **ntu:** Nephelometric Turbidity Units.
- **pci/l:** Pico curies per liter (a measure of radioactivity).
- **ppt:** Parts per trillion, or nanograms per liter.
- **ppq:** Parts per quadrillion, or picograms per liter.
- **Secondary Contaminants:** Federal drinking water measurements for substances that are not health related.

- These are recommended levels and reflect aesthetic qualities of water.
- **SMCL:** Secondary Maximum Contaminant Level.
 - **TOM:** Threshold Odor Number.
 - **NS:** No standard.
 - **ND:** Not detectable at testing limit.
 - **CU:** Color Units.
 - **RUL:** Recommended Upper Limit.

Contacts

City of Newark's Department of Water and Sewer Utilities
973-733-6370

EPA Safe Drinking Water Hotline
1-800-426-4791

